



Proposal Submission for NSTX Research Forum 2001

Title	Turbulence Scattering of High Harmonic Fast Waves
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Choose only one topical session by inserting X (Please use separate forms for individual proposals)	2001 Research Program (mbell@pppl.gov) <input type="checkbox"/> ET1: Macroscopic Stability <input type="checkbox"/> ET2: Transport & Turbulence <input checked="" type="checkbox"/> ET3: High Harmonic Fast Wave & Electron Bernstein Wave <input type="checkbox"/> ET4: Coaxial Helicity Injection <input type="checkbox"/> ET5: Boundary Physics 2002-2005 Research Opportunities (mpeng@pppl.gov) <input type="checkbox"/> TG1: Noninductive Startup <input type="checkbox"/> TG2: Heating, Current Drive & Fueling <input type="checkbox"/> TG3: Macroscopic Stability <input type="checkbox"/> TG4: Transport & Turbulence <input type="checkbox"/> TG5: Energetic Particle Physics <input type="checkbox"/> TG6: Multiphase Interface <input type="checkbox"/> TG7: Plasma Science User Research Fluctuations Measurement (esynakowski@pppl.gov) <input type="checkbox"/> Fluctuations Measurement proposals

Select a presentation option by inserting X:

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Special Requests for your proposal (projector type, time constraints, etc.):

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Please write a one-page description of your presentation:

Abstract : Effect of scattering of high harmonic fast magnetosonic waves (HHFW) by low frequency plasma turbulences on NSTX is analyzed. Due to the similarity of the wavelength of HHFW to that of the expected low frequency turbulences in the plasma edge region, the scattering of HHFW can become significant. The scattering probability increases as the launched wave parallel-phase-velocity is increased owing mainly to the location of the wave cut-off layer shifting toward lower density edge. The scattering probability however can be reduced significantly with higher edge plasma temperature, steeper density gradient, and magnetic field. Possible experiments are suggested.

Please return this document via e-mail attachment to jrobinson@pppl.gov.

Please e-mail questions or comments to the organizers listed above.